REMARKS

In the Action, claims 1, 2 and 4-6 are rejected, and claims 3 and 7-10 are withdrawn from consideration as being directed to the non-elected invention. In response, claim 15 is cancelled, and claim 1 is amended to include the subject matter of claim 15. New claim 20 is added to recite that the water-absorbent resin (a) is without surface treatment and/or granulation. Support for this claim is found on page 39, lines 1-5 of the specification. The pending claims in this application are claims 1-6 and 11-14 and 16-19, with claim 1 being the sole independent claim.

Claim 1 as amended recites the water-absorbent resin being produced from a classification step and/or a surface-modifying step following the polymerization and drying steps. Claim 1 also recites that the water-absorbent resin has a mass-average particle diameter of 200 to 700 μm determined according to JIS-standardized sieves after the classification and contains particles of not smaller than 1,000 μm in the range of less than 5.0 mass % and that the water-absorbent resin (a) separated from the water-absorbent resin being produced is mixed with the continuously produced water-absorbent resin where the water-absorbent resin (a) is mixed in the step (C) without being substantially modified.

Rejection of Claims 1-6 and 11-15

Claims 1-6 and 11-15 are rejected under 35 U.S.C. § 102(b) as being anticipated by, or in the alternative, as being obvious under 35 U.S.C. § 103(a) over EP 885 917 and its corresponding U.S. Patent No. 6,228,930 to Dairoku. EP '917 is cited for disclosing a classification process where a portion of the fine particles separated from the water-absorbent resin are recycled.

The present invention is directed to a process for the continuous production of a water-absorbent product, which includes the steps of separating a predetermined amount of a water-absorbent resin from a production line and mixing an amount or portion of the separated water-absorbent resin into the production line from a classification and/or surface-modifying step without being substantially modified. As disclosed on page 39, lines 1-5 of the specification, the mixing step without being modified refers to the separated water-absorbent resin being without surface treatment and/or granulation. The process of the present invention enables the easy and inexpensive production of a water-absorbent resin with a stable and constant quality.

In contrast, EP '917 and its corresponding U.S. Patent No. 6,228,930 to Dairoku disclose a process for granulating a fine powder. The granulation step of EP '917 and Dairoku is carried out to decrease the content of the fine powder. EP '917 and Dairoku do not carry out a process to stabilize the properties of the water-absorbent resin.

The Action contends that EP '917 and Dairoku disclose each of the claimed steps and characteristics. In particular, the Action contends that page 16, lines 28-30, and page 20, lines 50-58, are readable on the claimed step (B). Step (B) of claim 1 recites separating a predetermined amount of a water-absorbent resin (a) having not less than or not more than a definitive value of the measurement of step (A). The passage on page 16 of EP '917 discloses recycling the fine powder, but does not disclose separating an amount of a water-absorbent resin based on a measurement of a previous measurement step. The Action asserts that EP '917 "inherently" measures a property in a previous step. This position is not supported by the disclosure and is without merit. EP '917 discloses granulating the resin and a mesh size to classify the resin. There is no disclosure of measuring the particle sizes either expressly or inherently and then separating a portion of the resin based on that measurement.

The passage on page 20, lines 50-58, also fails to disclose the claimed invention. This passage discloses the prevention of "reproduction" of fine powder and decrease of fine powder content. There is no disclosure of measuring a property and separating an amount of the resin based on the property. EP '917 discloses separating the fine powder although there is no disclosure or suggestion of a step of measuring the fine powder. The fine powder is granulated and mixed with the resin. As noted above, the claimed invention mixes the separated water-absorbent resin without modification such as surface-treatment or granulation. Thus, EP '917 does not disclose the claimed step (A), (B) or (C).

The claimed invention is directed to a process including the step of measuring a predetermined property or component content of the flow of a water-absorbent resin product in step (A) continuously produced from a classification step and/or a surface-modifying step following polymerization and drying where the water-absorbent resin has a specified mass-average particle diameter. EP '917 does not disclose a water-absorbent resin from a classification and/or surface-modifying step having the claimed mass-average particle diameter and does not measure a predetermined property and/or component content after the classification and/or surface-modifying step.

The claimed step (B) separates a portion of the water-absorbent resin (a) which does not satisfy the specific property and/or component content. At least a portion of the separated water-absorbent resin (a) is then mixed with the production line in step (C) so that the water-absorbent resin product having the desired properties can be continuously produced with a consistent and uniform quality. The variations in the properties of the continuously produced water-absorbent resin are minimized by this process.

EP '917 and Dairoku are directed to a process for producing a water-absorbent resin composition that contains granules obtained from fine particles. EP '917 does not disclose

separate steps of measuring a predetermined property and/or component content after the classification step and/or modifying step as in step (A) of the claimed invention. EP '917 and Dairoku also fail to disclose a separate step of separating a predetermined amount of a water-absorbent resin (a) and then mixing the water-absorbent resin (a) into the water-absorbent resin that comes directly from the classification step and/or surface modifying step where the water-absorbent resin (a) is without further modification.

The classifying step of EP '917 to remove coarse particles, objective particles and fine particles is not the claimed steps (A) and (B). The classification step of EP '917 is a simple classification where the coarse particles and the fine particles are removed from the water-absorbent resin stream. The coarse particles are returned to the pulverization step and are not returned to the water-absorbent resin stream from the classification step and/or surface-modifying step as claimed.

The fine particles from the classification step in EP '917 are mixed with an aqueous liquid and granulated to form larger particles. Thus, the fine particles of EP '917 are not recycled without further modification as claimed. The granulated water-absorbent resin in EP '917 is directed to the drier to remove the liquid added during the granulation step as disclosed in Figure 7. The granulated water-absorbent resin is not mixed with the water-absorbent resin from the classification step and/or surface-modifying step.

The claimed steps (A), (B) and (C) of claim 1 are not a simple classification step. The steps (A), (B) and (C) are recited in the claims separately from the classification step. Thus, the claimed steps (A), (B) and (C) are different from the classification step of EP '917. Page 16 of EP '917 discloses the conventional classification step but does not disclose or suggest the claimed steps (A), (B) and (C).

Even if the general classification step described on page 16 of EP '917 is considered the same as the claimed step (A), there is no classification step of EP '917 corresponding to the claimed classification and/or surface-modifying steps from which the predetermined property and/or component content are measured as in claim 1. The coarse particles of EP '917 are re-pulverized and then re-classified. As noted above, the fine particles are granulated by combining with an aqueous liquid. Thus, the mixing of the water-absorbent resin (a) without further modification as in claim 1 is not disclosed or suggested in EP '917.

In view of the above, claim 1 is not anticipated by or obvious over EP '917 or Dairoku. Claims 2-6 and 11-15 depend from claim 1 and are also allowable. EP '917 and Dairoku do not disclose the mixing of the water-absorbent resin (a) being carried out in the production line of claim 2, changing the production conditions in response to the results of the measurement of step (A) as in claim 3, measuring the predetermined property and/or component content from the surface-modifying step as in claim 4, or measuring the absorption capacity without load, absorption capacity under load, liquid permeability and particle diameter of claim 5 or the mass average particle diameter of claim 6 in combination with the features of claim 1.

In view of the above, the claims are not anticipated by or obvious over EP '917 or Dairoku.

EP '917 and Dairoku do not disclose the particle size of claim 11, the mixing in step (C) being in a dry manner as in claim 12, the yield of the water-absorbent resin as in claim 13 where the water-absorbent resin containing a carboxyl group and the surface-modifying step being carried out in a dehydration reactable crosslinking agent as in claim 14 in combination with the features of claim 1.

Claims 16-19 are rejected as being obvious over EP '917 and Dairoku in view of U.S. Patent No. 5,468,813 to Uenaka et al. or U.S. Patent No. 6,107,385 to Imahashi. Uenaka et al. and Imahashi are cited for disclosing methods for measuring particle diameters.

As discussed above, EP '917 and Dairoku do not disclose the step of measuring the particle of the water-absorbent resin. Therefore, Uenaka et al. and Imahashi provide no motivation or incentive to measure the particle diameter or modify the process of EP '917 or Dairoku.

The Action contends that it would have been obvious to modify the process of EP '917 and Dairoku to control the content of the particle separated from the resin because one is capable of making the modification. The test for obviousness is not based on whether one is capable of making a modification. Obviousness requires some incentive or motivation in the cited art to modify the process of EP '917 or Dairoku. The cited art does not provide the necessary incentive or motivation. Accordingly, the combination of the cited patents does not render the claims obvious.

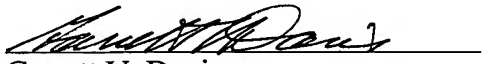
Furthermore, the particle diameter of Uenaka et al. and Imahashi is in the order of 0.3 to 7 μm and 0.4 to 2 μm, respectively. In contrast, claim 6 recites measuring the water-absorbent resin having average particle diameter of 300 to 600 μm and having 95 to 100 mass % with a particle size of 850 to 150 μm. Thus, Uenaka et al. and Imahashi are unrelated to the granulation process of EP '917 and Dairoku and the process of the claimed invention.

The art of record further fails to disclose the amount of the water-absorbent resin (a) being separated in the step (B) is not larger than 10 mass % as in claims 16 and 17, or the recited values of the average particle diameter, residual monomer content, absorption capacity under load, absorption capacity without load and the amount of fine powder having a particle diameter less than 150 μm as in claim 18 in combination with the features of claim

1. The combination of the cited art further fails to disclose the laser diffraction scanning method being carried out in a dry measurement as in claim 19 in combination with the features of claims 6 and independent claim 1.

In view of these amendments and the above comments, reconsideration and allowance are requested.

Respectfully submitted,



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Dated: August 3 2006